

REMARKS

Claims 1, 3-12, 14-31 and 33-39 are pending in this application. By this Amendment, claims 1, 3, 6, 12, 14, 19, 27, 31, 33 and 34 are amended, claims 2, 13 and 32 are canceled and claims 38 and 39 are added. No new matter is added.

Applicant appreciates the courtesies shown to Applicant's representative by Examiners Riddle and Glick in the October 27, 2009 personal interview. Applicant's separate record of the substance of the interview is incorporated into the following remarks.

Claims 1, 9, 11, 12, 22, 24, 26, 31, 36 and 37 are rejected under 35 U.S.C. §102(b) over Sugita, JP-A-2000-021763. The features from canceled claims 2, 13 and 32 have been incorporated into independent claims 1, 12 and 31, respectively, rendering the rejection moot.

Claims 2-8, 13-21, 25, 27, 29, 30, 32 and 33 are rejected under 35 U.S.C. §103(a) over Sugita in view of Kudo, JP-A-10-340846. As discussed above, the features from canceled claims 2, 13 and 32 have been incorporated into independent claims 1, 12 and 31. Thus, the rejection is respectfully traversed with respect to independent claims 1, 12, 27 and 31.

Claim 1 recites that, in said at least one exposure, said space is in a state filled with a predetermined liquid. Claims 12 and 31 recite similar features. The Office Action admits that Sugita fails to teach or suggest these features but alleges that Kudo overcomes the deficiencies of Sugita and that the combination would have been obvious because an immersion fluid is commonly used to increase numerical aperture of the projection exposure system to enable patterning of smaller feature sizes. As discussed during the personal interview, Applicant disagrees that the combination would have been obvious because features that are known in one reference to produce a certain result does not mean it would have been obvious to combine those features with another reference.

In an exposure where the substantial wavelength of the exposure light is shortened, such as in an immersion exposure, the time required for exposure tends to be longer than regular exposure due to operations such as supplying the liquid. Accordingly, by employing the exposure method or apparatus of the above referenced claims, a temporally advantageous exposure according to the required resolution of each exposure can be employed, even in the case when exposure is performed a plurality of times, so that exposure satisfying both high accuracy and high throughput can be achieved. The total exposure time can be reduced, especially when compared with the case when immersion exposure is performed in both exposures of a double exposure. See the originally filed specification at page 47, lines 12-20. Thus, the claims recite a combination of elements that together perform a new or different function as compared to the individual elements found in the prior art. That is, the claimed invention provides a faster method with a maintained high accuracy. The elements in combination do not merely perform the function that each element performs separately. See MPEP §2141(V). Further, the claimed invention provides a solution to a disadvantage of the prior art (*i.e.*, a slower process). See MPEP §2145(X)(D)(3). Thus claims 1, 12 and 31 would not have been obvious to one of ordinary skill in the art at the time of the invention.

Claim 27 recites an adjustment unit that adjusts a substantial wavelength of said exposure light in a space between said projection optical system and said photosensitive object. The Office Action admits that Sugita fails to teach or suggest these features but alleges that Kudo overcomes the deficiencies of Sugita and that the combination would have been obvious. Applicant disagrees that the combination would have been obvious.

The Office Action rejects claim 27 based upon essentially the same reasoning as claim 1. However, the above referenced features of claim 27 provide similar advantages as to those discussed above with respect to claims 1, 12 and 31 and thus are patentable at least for the same reasons. That is, the combination of Sugita and Kudo would not have been obvious

because the elements (of claim 27) in combination do not merely perform the function that each element performs separately in the prior art and the claimed invention provides a solution to a disadvantage of the prior art.

Further, claim 27 recites that the exposure apparatus is a single exposure apparatus. As agreed during the personal interview. Sugita clearly teaches using at least two exposure apparatus, and there is no teaching or suggestion that a single exposure apparatus could be used.

Claims 3-8, 14-21, 25, 29, 30, 32 and 33 are patentable by reason of their dependency from independent claims 1, 12, 27 and 31, as well as for the additional features they recite.

It is respectfully requested that the rejection be withdrawn.

Claims 6-8, 19-21, 28 and 34 are rejected under 35 U.S.C. §103(a) over Sugita in view of Kudo and Fujishima et al., JP-A-2000-058436. The rejection is respectfully traversed.

This rejection is predicated on Sugita and Kudo teaching or suggesting all of the features of independent claims 1, 12 and 31. As discussed above, Sugita and Kudo fail to teach or suggest these features. Further, Fujishima fails to overcome the deficiencies of Sugita and Kudo. Thus, claims 6-8, 19-21, 28 and 34 are patentable by reason of their dependency from one of independent claims 1, 12 and 31, as well as for the additional features they recite.

It is respectfully requested that the rejection be withdrawn.

Claims 10 and 23 are rejected under 35 U.S.C. §103(a) over the first and second embodiments of Sugita. As discussed above, claims 1 and 12 have been amended to incorporate the features of canceled claims 2 and 13, rendering the rejection of claims 10 and 23 moot.

Claim 27 is rejected under 35 U.S.C. §103(a) over Sugita in view of Kroyan et al., U.S. Patent Application Publication No. 2002/0048288. The rejection is respectfully traversed.

Claim 27 recites an adjustment unit that adjusts a substantial wavelength of said exposure light in a space between said projection optical system and said photosensitive object. The Office Action admits that Sugita fails to teach or suggest these features but alleges that Kroyan overcomes the deficiencies of Sugita and that the combination would have been obvious. Applicant disagrees that the combination would have been obvious.

As discussed above in the rejection of claim 27 over Sugita in view of Kudo, claim 27 recites a combination of elements that together perform a new or different function as compared to the individual elements found in the prior art. Further, the claimed invention provides a solution to a disadvantage of the prior art. Similar to the rejection of claim 27 over Sugita in view of Kudo, the combination of Sugita and Kroyan would not have been obvious because the combination of elements in claim 27 do not perform the same function as compared to the individual elements of the prior art and provides a solution to a disadvantage of the prior art. Thus, claim 27 is patentable over Sugita in view of Kroyan.

It is respectfully requested that the rejection be withdrawn.

Claim 35 is rejected under 35 U.S.C. §103(a) over Sugita in view of Ando et al., U.S. Patent No. 5,989,759. As discussed above, the features from canceled claim 32 have been incorporated into independent claim 31, rendering the rejection of claim 35 moot.

New claims 38 and 39 are patentable by reason of their dependency from independent claims 1 and 12, as well as for the additional features they recite. Specifically, as agreed during the personal interview, Sugita clearly teaches using at least two exposure apparatus and there is not teaching or suggestion that a single exposure apparatus could be used.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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Attachment:

Request for Continued Examination

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